Matemàtiques

Derivades de 100 funcions

- **A continuació teniu 100 funcions per practicar la derivada d'una funció. Per començar, 10 funcions polinòmiques, 10 funcions racionals, 10 funcions exponencials, 10 funcions logarítmiques, 10 funcions amb arrels, 20 funcions trigonomètriques i després 30 funcions compostes de diferents tipus.**
- **Les solucions es poden trobar en els enllaços següents:**

Funcions 1 - 30: `https://www.youtube.com/watch?v=EzAR4AKFFBQ`

Funcions 31 - 60: `https://www.youtube.com/watch?v=aQQ6iSA1t_k`

Funcions 61 - 100: `https://www.youtube.com/watch?v=KexJR3MduQk`

A continuació les funcions:

1. $y = 2$
2. $y = 2x - 3$
3. $y = -5x^2 - 2x + 1$
4. $y = -7x^3 - 2x^2 + 10x - 2$
5. $y = 10x^2 - 3x^3 - 2$
6. $y = (10x^2 - 3x)^5$
7. $y = (x - 1)^{10}$
8. $y = (2x-2)^{17} + (5x^2+2)^3$
9. $y = -7x^2 - 3x + 3$
10. $y = -3(x^2 + 2x + 1)^4$
11. $y = \dfrac{x}{x+1}$
12. $y = \dfrac{-2}{x}$
13. $y = \dfrac{x^2}{x-1}$
14. $y = \dfrac{2x+3}{x^2-2x}$
15. $y = \dfrac{x^2-1}{x^3}$
16. $y = \dfrac{2x-1}{(x-1)(x+1)}$
17. $y = \dfrac{1}{x^5}$
18. $y = \dfrac{x^2+x-3}{x+1}$
19. $y = \dfrac{6x^4}{7x^2-x+3}$
20. $y = \dfrac{x^2-4x}{5x+2}$
21. $y = e^x$
22. $y = e^{3x-2}$
23. $y = 2^x$
24. $y = 2^{x^2-3x+1}$
25. $y = e^{-x^2} + e^x$
26. $y = (e^x + 1)^2$
27. $y = \dfrac{e^x}{x^2+1}$
28. $y = x^2 e^x$
29. $y = e^{-3x^2+2}$
30. $y = e^{\dfrac{1}{x}}$
31. $y = \sqrt{x}$
32. $y = \sqrt{2x-2}$
33. $y = \sqrt{x^2 - 2e^x}$
34. $y = \dfrac{1}{\sqrt[3]{x}}$
35. $y = \sqrt{\dfrac{1}{x}}$
36. $y = \sqrt{3x^2 + e^{x^2}}$
37. $y = \sqrt[3]{5x^3 - 1}$
38. $y = \dfrac{e^{\sqrt{x}}}{\sqrt{x}}$
39. $y = \sqrt{x^3 - 2x^2 - x + 1}$
40. $y = \dfrac{\sqrt{x}}{x^2}$
41. $y = \ln(x)$
42. $y = \log_3(x)$
43. $y = \ln(x^2 + 1)$
44. $y = \log_5(x^2 + 1)$

45. $y = \ln(3x^3 - 2x^2 + 5)$
46. $y = \ln(e^x - 1)$
47. $y = \ln(\sqrt{x^2 - 1})$
48. $y = \ln^2(5x - 1)$
49. $y = e^x \cdot \ln(2x)$
50. $y = \ln(\ln(x^2 - 3x))$
51. $y = \sin(x)$
52. $y = \cos(x)$
53. $y = \tan(x)$
54. $y = \sin(3x^2 - 5x - 7)$
55. $y = \cos(x^2 + e^{x^2})$
56. $y = \tan(2x^2 - 3x + 7)$
57. $y = \cos(\ln(3x^2 - 1))$
58. $y = \sin(\sqrt{\ln(x)})$
59. $y = \sin^7(x)$
60. $y = \tan(e^{-x^2-1})$
61. $y = \arcsin(x)$
62. $y = \arccos(x)$
63. $y = \arctan(x)$
64. $y = \arcsin(2x - 1)$
65. $y = \arccos(x^3 - x^2)$
66. $y = \arctan(e^x)$
67. $y = \arcsin^3(x)$
68. $y = \arctan(\sqrt{x})$
69. $y = \arccos(\ln(x + 1))$
70. $y = \arcsin(-x^2 - 1)$
71. $y = (3x^4 - 2x + 1)^5$
72. $y = \ln(\tan(x))$
73. $y = \ln^4(x^2 - 1)$
74. $y = \tan^2(x^3 - 8)$
75. $y = \left(\dfrac{x^2}{x - 1}\right)^3$
76. $y = e^{\sin(2x)}$
77. $y = \sqrt{\cos(x)}$
78. $y = \cos(\sin(x))$
79. $y = \sin(\cos(x))$
80. $y = \sin^2(x^2)$
81. $y = \sin(\sqrt{x^2 + 3x})$
82. $y = \cos\left(\dfrac{x - 1}{x}\right)$
83. $y = \ln^5(\sin(x^2))$
84. $y = e^{-x^2-x^3-\ln(x)}$
85. $y = (\sin(x) - \cos(x))^5$
86. $y = \dfrac{x}{\ln(x)}$
87. $y = (1 - 2e^{3x})^6$
88. $y = (\sqrt[3]{x^2 - 1})^5$
89. $y = (x + 1)\ln(x + 1)$
90. $y = (2x + 1)^3 3^x$
91. $3\sin(x^2) + 3\sin^2(x)$
92. $y = 10x^4 - 3x + \ln(x^2)$
93. $y = e^{(\sqrt{x}+1)^2}$
94. $y = \sqrt[3]{\ln(x^2 - 1)}$
95. $y = \ln(\sin^2(x))$
96. $y = (4x^2 + 5x - 2)^3$
97. $y = \sqrt[4]{\ln(x)}$
98. $y = 2^{3x^2-x+10}$
99. $y = \ln(\sqrt{x} + e^{3x})$
100. $y = x^x$

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